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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/915,426	07/26/2001	Martin Kessler	1703	6991

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EXAMINER

DUDA, RINA I

ART UNIT	PAPER NUMBER
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2837

DATE MAILED: 03/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,426

Applicant(s)

KESSLER ET AL.

Examiner

Rina I Duda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2002 and 31 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-9 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/14/02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION***Response to Arguments***

1. Applicant's arguments filed 2/19/03 have been fully considered but they are not persuasive. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a comparison between a reference voltage and a voltage of a phase prior to an OR-operation) are not recited in the rejected claim(s) 1 and 3-6. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Therefore, claims 1 and 3-6 stand rejected over the applied prior art Schwarz and figure 3 (admission of prior art).

With respect to the drawings, in the previous office action dated 8/14/02, the examiner objected the drawings for not showing the device or circuit that will perform the "OR" operation; applicant amended the drawings to show that resistors R4/R5, transistors 17, and comparators 14 form the OR-circuit. But, the new added claim 7 recite a plurality of comparators, a plurality of resistors, and an OR-circuit, so the comparators and resistors are not part of the OR-circuit, but different components of the device that determines the position of the motor, making the OR-circuit a separate component of said position determining device; and claim 9 recites a means for comparing a reference voltage to the voltage of a motor phase prior to an OR-operation. Therefore, the drawings stand objected for not showing the claimed subject matter.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The specification (detailed description of the invention) is objected under 35 U.S.C. 112, first paragraph, for not supporting the claimed subject matter. The new added claim 7 recite a plurality of comparators associated with each phase and an OR-circuit for comparing a phase voltage with a reference voltage. But, the detailed description of the invention describes the plurality of comparators as the means responsible for comparing the phase branch voltage to a reference voltage.

4. Claim 7 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The detailed description of the invention as describe in paragraph three of this office action does not support that an OR-circuit compares a phase branch voltage to a reference voltage.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. In claim 8, it is unclear what voltage values are going to be further used for the OR-operation.

Drawings

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "OR-circuit" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwarz (US Patent 4978895).

Claim 1, Schwarz teaches an apparatus/method for determining the position of a sensorless direct current motor comprising a direct current motor 20 including a plurality of inductivities L1, L2, and L3 arranged in corresponding phases 21, 22, and 23, said inductivities induce alternating voltages V1, V2, and V3 in the motor windings, as shown in figure 3 (first three graphs); and a rotor position detecting circuit 30 which includes a

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plurality of resistances 51, 52, 54, 55, 57, and 58 and a plurality of comparator components 59, 60, and 61, wherein the resistances and the comparators are located in phase branches as shown in figure 5 and described in column 3 lines 16-58.

Claim 6, Schwarz describes the output of the comparators 59, 60, and 61 connected to a common output element 70.

10. Claim 8 is rejected under 35 U.S.C. 102(b) as being anticipated by Kokami et al (US Patent 5818179), of record.

Kokami et al teach a brushless motor drive circuit comprising a plurality of inductivities L_u - L_w that induce alternating voltages in the motor windings; a plurality of resistors R_1 - R_6 located in the motor phase branches; and means 1_u - 1_w for comparing a voltage of a phase branch to a reference voltage V_n prior to entering the phase compensation means 2_u - 2_w .

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwarz (US Patent 4978895) and applicant's admission of prior art (figure 3).

Claim 3, Schwarz as described above, teaches a method/apparatus for determining the position of a sensorless direct current motor comprising a motor, which includes inductivities L_1 - L_3 that induce alternating voltages in the motor windings; a

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plurality of resistances 51, 52, 54, 55, 57, and 58; and a pluralities of comparators 59, 60, and 61, wherein the resistances and the comparators are located in the phase branches. But, Schwarz fails to disclose a non-selected phase branch including a transistor connected to a reference potential.

However, figure 3 (applicant's admission of prior art) describe all phase branches including a transistor 17 connected to a reference potential for selecting the phase branch to be evaluated. Therefore, it would have been obvious to one of ordinary skill in the art to connect a transistor to the phase branches, since the transistor will provide a less expensive alternative for selecting the un-energized phase branch that will be used to evaluate the position of the motor, as described on pages 3-5, page 12 lines 10-19, and page 13 lines 1-4.

Claim 4, applicant describes in different portions of the specification (page 3-5, page 12 lines 10-19, page 13 lines 1-4, and figure 3) that the prior art uses either a pass series transistor or a field effect transistor connected to each of the phase branches (selected or non-selected).

Claim 5, the difference between the subject matter of claim 5 and the teachings of Schwarz is that claim 5 recites a resistor and a transistor connected to each of the phase branches. However, figure 3 of applicant's admission of prior art describes a device for position determination comprising a plurality of phase branches, wherein each of the phase branches includes a transistor 17 and a resistor R2 for selecting the un-energized phase branch and regulating the induced voltage respectively. Therefore, it would have been obvious to one person of ordinary skill in the art to connect a

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transistor to each of the phase branches, since the transistor will provide a less expensive alternative for selecting the un-energized phase branch that will be used to evaluate the position of the motor; and connect a resistor to the phase branches, since the resistor will help match the corresponding induced voltage of the selected phase to the input of the comparator, as described on pages 3-5, page 12 lines 10-19, and page 13 lines 1-4.

Allowable Subject Matter

13. The following is a statement of reasons for the indication of allowable subject matter: The prior art made of record does not teach a device for determining the position of a sensorless direct current motor comprising an OR_circuit for receiving the output of the comparison means, which compares a phase branch voltage to a reference voltage, and performing an operation with said output, as described in claim 9.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The documents cited specially US Patent Murakami et al also anticipates the subject matter of claim 8.

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rina Duda whose telephone number is (703) 305-0722.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi, can be reached at (703) 308-3370. The fax number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

RD

March 4, 2003

Bentsu Ro
Bentsu Ro
Primary Examiner